DOCUMENT RESUME

ED 240 273 CE 038 061

AUTHOR	Iwler, Irvin H.; And Others
TITLE	Developing In-Service Brochures Designed to Prepare the Vocational Educator Academically and Attitudinally to Work with Disadvantaged Students. Final Report.
INSTITUTION	Pittsburgh Univ., Pa. Dept. of Vocational Education.
SPONS AGENCY	Pennsylvania State Dept. of Education, Harrisburg. Bureau of Vocational and Technical Education.
PUB DATE	30 Jun 83
NOTE	59p.; For a related document, see CE 038 062.
PUB TYPE	Reports - Descriptive (141) -- Guides - Classroom Use - Guides (For Teachers) (052)
EDRS PRICE	MF01/PC03 Plus Postage.
DESCRIPTORS	Classroom Techniques; *Educationally Disadvantaged; Educational Resources; *Inservice Teacher Education; Instructional Materials; *Material Development; Pamphlets; Secondary Education; *Teaching Methods; Vocational Education; *Vocational Education Teachers

ABSTRACT

A project developed an inservice brochure and a summary booklet that defined the conditions that affect academically disadvantaged vocational students in an effort to increase vocational educators' awareness of what it is like to be an academically disadvantaged student. The publications also identify how these students learn and illustrate the techniques and strategies needed to teach special students. Consultants from the Pennsylvania Bureau of Vocational Education also identified the modifications in curriculum, facilities, and teaching strategies needed to help disadvantaged students succeed in the classroom. This information was also included in the brochure. Appendix A, "Academically Disadvantaged Students; A Vocational Teacher's Guide," defines the academically disadvantaged students, offers information on identifying them, suggests instructional techniques to help these students succeed, and describes appropriate learning materials. Appendix B, a booklet of 20 pages, is titled "The Student with Special Needs; a Guide for Vocational Educators," and tells how to identify students with specific handicaps, suggests teaching strategies, and lists additional resources. (YLB)

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FINAL REPORT

DEVELOPING IN-SERVICE BROCHURES DESIGNED TO PREPARE THE VOCATIONAL EDUCATOR ACADEMICALLY AND ATTITUDINALLY TO WORK WITH DISADVANTAGED STUDENTS

(PROJECT #93-3012)

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JUNE 30, 1983

PENNSYLVANIA DEPARTMENT OF EDUCATION
BUREAU OF VOCATIONAL EDUCATION
VOCATIONAL PROGRAM SUPPORT SERVICES SECTION

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ABSTRACT

93-3012

Developing In-Service Brochures Designed To Prepare The Vocational Educator Academically And Attitudinally To Work With Disadvantaged Students

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$9,031.00
1/1/83 - 6/30/83

The objective of this project was to write in-service brochures that developed the vocational educator's awareness of what it is like to be an academically disadvantaged student, that identified how these students learn and illustrated the techniques and strategies needed to teach them. The brochures will enable the vocational educator to make appropriate curriculum modifications and develop appropriate teaching strategies.

Objectives

1. To define the conditions that affect academically disadvantaged vocational students.
2. To assist vocational teachers in modifying their vocational curriculum and evaluation techniques for disadvantaged students.
3. To increase the vocational educators' awareness of what it is like to be academically disadvantaged.
4. To list resources that can serve the vocational educator in teaching the disadvantaged student.
5. To encourage cooperative efforts between vocational and resource personnel to better serve vocational disadvantaged students.

Outcomes

1. Consultants from Vocational Education identified the modifications in curriculum, facilities and teaching strategies needed to help the disadvantaged student in the vocational classroom.
2. Project consultant visited local exemplary vocational programs serving the academically disadvantaged students for input into the brochures.
3. One in-service brochure and part of one summary booklet for the disadvantaged student.
4. These publications will be distributed to vocational educators in Pennsylvania by the Vocational Education Department of the University of Pittsburgh and the Pennsylvania Bureau of Vocational Education.
5. These brochures have been field-tested on Vocational Education classes. They were rated successful in an in-service program at Venango County Area Vocational Technical School on June 2, 1983. A presentation and distribution of the brochures was made at the Pennsylvania Vocational Education Conference on June 27, 1983.
6. If vocational educators are to play a vital role in the training of disadvantaged students, they need to be more academically and attitudinally prepared to work with them. This in-service brochure and booklet will enable the educators to successfully embrace this role.

Audience

The in-service brochures are useful to the Bureau of Vocational Education, vocational educators, guidance counselors, administrators, rehabilitation counselors, and finally parents and employers of disadvantaged students.

Published Materials

- 5,000 Individual Brochures
- 2,000 Summary Booklets
- Final Report

I. BACKGROUND

A basic function of all economic development is to provide as many people as possible with the means for life-sustenance, self-esteem, and freedom, the common goals sought by all individuals and societies to fulfill fundamental human needs.

Increasingly, employment and economic success in the United States is dependent upon the educational level of the worker. However, despite assurances of the U.S. Constitution, enforcing and enabling legislation, and continual efforts from the public and private sectors, there remains in our schools the problem of the student who is "disadvantaged." Disadvantaged students are those who are not able to do the school work expected of children their age because of economic and academic problems.

Academic deprivation and its ensuing "substandard" performance by students is often compounded by economic deprivation. Living in an industrial society beset by under-employment during the same period when massive changes in technology produce new requirements has produced an ever-growing contingent of society beset by poverty, or the deprivation of something necessary for subsistence and physical energy. "Destitution," which is the state of poverty in which there is entire deprivation of the means of subsistence, and "dependency," or the state of those who

depend upon others for support, have been the targets of social and legislative concern. They undermine physical and mental ability. Without the help of the informed and the concerned, children of the poor, who often have educational handicaps, may suffer undermined physical and mental ability. Economic disadvantage prevents many from developing their gifts, aptitudes, and talents fully, and society loses their potential contributions.[1]

The provision of vocational education carries with it a great responsibility. The public looks to vocational educators, today more than ever, to supply the answers to many of its critical employment and education questions. Of 13 national priorities for vocational education (1979), two dealt specifically with the disadvantaged; i.e., to improve guidance, outreach and retention activities for disadvantaged youth, and to increase representation and participation of special populations, including disadvantaged persons.

Vocational educators must be able to develop and incorporate units of instruction or course offerings dealing specifically with academically and economically disadvantaged students. Classroom management systems must make the most effective use of individual, small group, and large group sessions as they relate to student needs. For each student, the vocational teacher must be able to identify performance standards and student performance required to

demonstrate attainment based on occupationally-specific exit points; that is, based on individual goals and abilities -- more than one level of "competency attainment," such as routine performance of a basic task versus problem-solving analysis and performance. In addition to occupational competency training, vocational teachers of disadvantaged students need to utilize special techniques for affective skill training (leadership; neatness/safety; work ethics -- attendance/cooperation/pride/productivity/human relations). They also have to compensate for student's deficits in the cognitive learning of the basic skills (reading, language usage, mathematics).

The reality of the world of work demands that disadvantaged vocational students be given every advantage of updated materials, curriculum, and instructors so that they may realistically compete for jobs.

II. RELATED RESEARCH

The school environment -- an external force that influences students as individuals or as a member of a group -- may be divided into three types:

1. Physical environment, which includes all physical objects;
2. Psychosocial environment, which is the direct social influence of people as well as the mental influence of their attitudes, ideals, and ideas; and
3. Psychic environment, which includes the expressed ideas and other psychic things that affect the mind and nervous systems and have an important influence on a person, especially in forming ideals, attitudes and prejudices.[2]

Pupils develop different cognitive learning systems. One study of the cognitive style of academically disadvantaged students presents the profile of the student categorized as economically and academically disadvantaged. It reveals a student who:

> has the capacity to understand and to communicate non-linguistic functions such as facial expressions and body motions
>
> utilizes norms or categorical classifications as the basis for accepting or rejecting an advanced hypothesis
>
> has the tendency to reason in terms of one-to-one contrasts or comparisons of selected characteristics or measurements

desires to perform tasks by oneself, and has the need to quote definitions or explain situations in one's own words

has the capacity to exhibit a deliberate behavior or play a role to produce some particular effect on other persons

has not developed the capacity to enjoy the beauty of an object.

Motivation is an important aspect of sound educational delivery, and the vocational educator would well serve the disadvantaged student as well as the "normal" student by incorporating four principles of motivation:

1. Every activity should lead toward goals the pupils are aware of and want to attain.
2. Goals should be within reach, and the pupils should regard them as attainable.
3. The pupils should be able to judge how well they are progressing.
4. Classroom activities should lead to satisfaction that pupils will also seek outside the classroom.[3]

Thus, goals, standards and enabling activities in the vocational classroom must be realistically drawn -- planned, carried out, and evaluated -- to reflect the needs of the individual disadvantaged students for attaining the standards of performance that are acceptable to the educational, social, and working society within which they will be expected to function.

Conclusions based on the studies of Havighurst and Neugarten indicated that a teacher's own social background may not make him/her ineffective in dealing with children from "other class backgrounds." However, patterns of teacher deference, discrimination, and favoritism toward students often relate to the teacher's own cultural background through which he/she views the student.[4] Teaching styles -- in this case, vocational teacher styles -- need to fit the cognitive styles of their disadvantaged students (as well as their "normal" students) in order to maximize their learning and prepare them for successful entry into the American workforce.

References

[1]Albert Schaeffer et al, Understanding Social Problems. Columbus: Charles E. Merrill Publishing Co., 1970, pp. 68-70.

[2]Eva J. Ross, Living in Society. Milwaukee: The Bruce Publishing Company, 1966, pp. 28-31 and 188-191.

[3]Lee J. Cronbach, Educational Psychology, 2nd ed. New York: Harcourt, Brace and World, Inc., 1963, pp. 535-537.

[4]Rosalyn S. Yalow, in "Psychology Tomorrow: The Nobel View," Psychology Today, December 1982, p. 26.

III. METHODS

OBJECTIVES

The brochures were designed to help vocational educators, special educators, (rehabilitation) and guidance counselors, employers, and parents -- all people charged with supporting and providing vocational education for academically and economically disadvantaged students. The objectives of the brochure development were:

1.0 Vocational Instruction

- 1.1 To define the conditions affecting disadvantaged students
- 1.2 To assist vocational teachers in modifying their attitudes and classrooms, as necessary, for disadvantaged students
- 1.3 To increase the vocational educators' awareness of what it is like to be disadvantaged, academically and economically
- 1.4 To enable teachers to identify how disadvantaged students learn
- 1.5 To describe teaching strategies and evaluation techniques needed to enable the disadvantaged to succeed in the vocational classroom
- 1.6 To enable teachers to make appropriate curriculum/instructional equipment modifications

that aid the disadvantaged in acquiring a vocational skill

1.7 To list local, state and national resources that can serve the vocational educator in teaching the disadvantaged student

1.8 To encourage cooperative efforts between vocational educators and other school personnel to better serve the vocational needs of the disadvantaged student

2.0 Administration

2.1 To assist State and local vocational administrators and other school personnel in providing workshops and inservice meetings for teachers of disadvantaged students

2.2 To assist vocational administrators in providing the appropriate models of service delivery to meet the needs of their particular districts/ schools

3.0 Interagency and Interprofessional Cooperation

3.1 To assist vocational teachers and other teachers in teaching basic skills and/or pre-vocational subjects that support vocational instruction

3.2 To assist counselors as they work with secondary and postsecondary teachers in selecting and developing appropriate vocational

programs for students

3.3 To assist guidance counselors in helping students select programs and in working with teachers as they develop vocational programs

3.4 To assist Job-Assistance type agencies and personnel in developing and modifying vocational programs

3.5 To assist members of Individualized Education Program Teams as they develop individualized vocational programs for students

3.6 To assist parents in working with their children and in evaluating the childrens' progress

3.7 To assist employers in modifying training programs and materials and/or job redesign that will help the disadvantaged student continue to grow vocationally

3.8 To assist advocacy groups in formulating requests for secondary and postsecondary program development

3.9 To assist the formal and informal evaluators of disadvantaged students in the assessment of disadvantaged students' placement/evaluation

4.0 Preservice Education

4.1 To assist college/university department chairpersons and faculty who are developing pre-

service curricula and coursework in vocational education for the disadvantaged

5.0 Inservice Education

5.1 To assist LEA personnel in the development of inservice education programs for vocational and other teachers

5.2 To assist State-level administrators in developing in-service education programs

6.0 Research

6.1 To assist researchers to assess the State of the art in vocational education for disadvantaged students

6.2 To assist researchers in literature reviews on modifying vocational curricula for disadvantaged students

PROCEDURE

One of the factors working against the success of disadvantaged students in the Vocational Education classroom is the educator's lack of training in meeting diverse cognitive styles. If disadvantaged students are to benefit maximally from the vocational training, vocational in-service materials must reach their teachers in the field. Towards that goal:

- Consultants from vocational education identified the modifications in curriculum, facilities, equipment and teaching strategies needed to help disadvantaged students in the vocational classroom. Research of current literature was part of this identification process.
- The Project Coordinator also visited local exemplary vocational programs serving the disadvantaged for input into the brochures.
- One in-service brochure and one section of the summary booklet were written. An important part of these materials was the defining of strategies for teaching disadvantaged students. A total of 5,000 brochures and 2,000 summary booklets were printed.
- These publications will be distributed to vocational educators in Pennsylvania by the Vocational Education Department of the University of Pittsburgh and the Pennsylvania Bureau of Vocational Education. The brochures were used at a teacher in-service presentation in Venango County on June 2, 1983 by Clara Lea Gaston of the Bureau of Vocational Education. The teachers' response to the brochures was positive. Similar responses have been recorded from students in vocational classes at the University of Pittsburgh where they were field tested during Spring Term. Some of the reasons given for this positive evaluation were:

clarity, conciseness and breadth of specific information which the vocational teacher can put to immediate use.

- A presentation and distribution of the brochures was accomplished at the Pennsylvania Vocational Education Conference on June 27, 1983.

If vocational educators are to play a successful role in training disadvantaged students, they need to be more academically and attitudinally prepared to successfully embrace this role.

IV. ANALYSIS

(Samples of the brochures Academically Disadvantaged Students:

A Vocational Teacher's Guide and

The Student With Special Needs

are located in Appendices A & B.

V. CONCLUSIONS AND RECOMMENDATIONS

This brochure and summary booklet are useful tools for the motivated and competent vocational educator. However, they are only teachers' learning materials. If the teacher does not want to learn or cannot implement changes independently, the "wisdom" on the pages remains testimony to dreams, rather than reality.

Therefore, the ultimate value of this teacher training literature is its supportive role as resources for teacher workshops, vocational teacher preparation classrooms, and supervisory conferences. It is recommended that this brochures be used as one link in a continuing chain of efforts to improve the vocational teacher's training of disadvantaged students.

VI. DISSEMINATION

The In-Service Brochures were distributed to vocational and special educators in Pennsylvania through:

- Teachers In-Service, Venango County, June 2, 1983.
- Pennsylvania Vocational Education Conference, June 26-29, 1983.
- Pennsylvania Bureau of Vocational Education
- Vocational Education Department of the University of Pittsburgh.

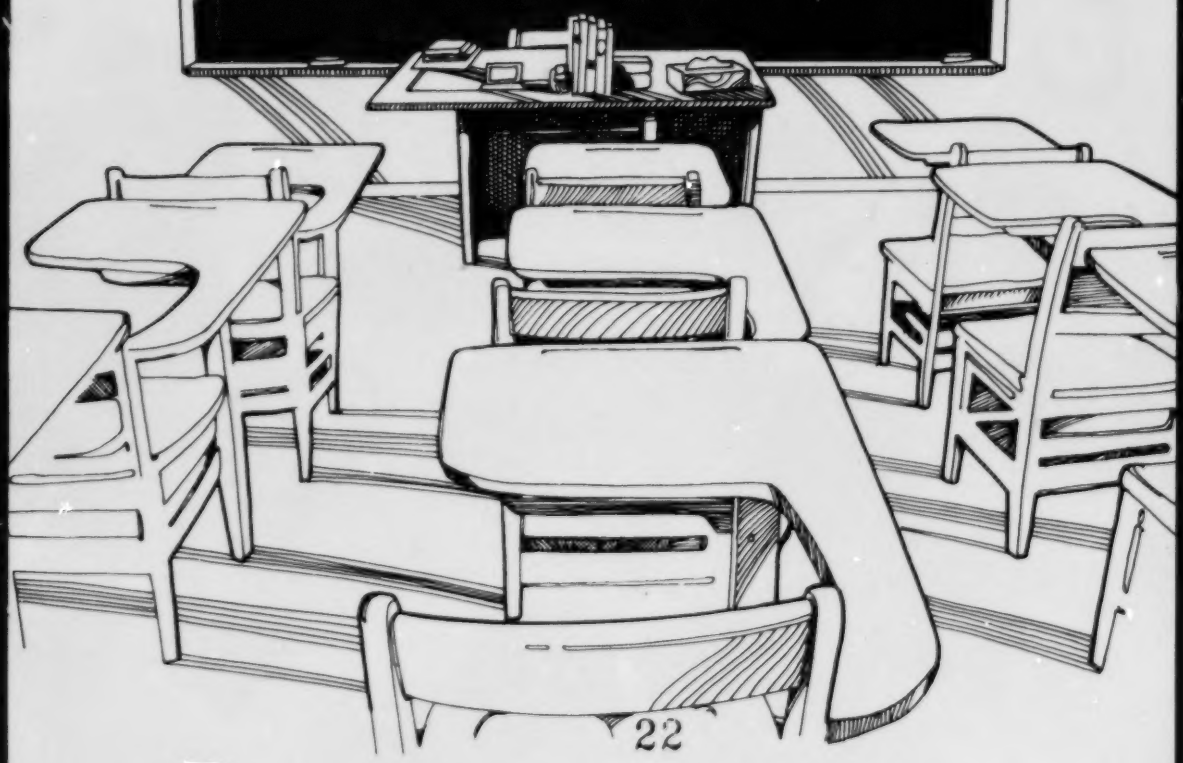
VIII. PERSONNEL

Dr. Irvin H. Iwler served as Project Director and Dr. Learita Garfield-Scott served as project consultant. Two vocational educators on the faculty of Brashear High School, Pittsburgh Schools, assisted in the evaluation of the brochures. Dr. Irvin H. Iwler, Ms. Gayle J. Marco and Dr. Ona Kay Kinter served as editors and evaluators of this project.

APPENDIX A

ACADEMICALLY DISADVANTAGED STUDENTS

A Vocational Teacher's Guide



ACADEMICALLY DISADVANTAGED STUDENTS

Who really are your academically disadvantaged students?

They are persons who enter your vocational program without the skills that they need to meet the reasonable expectations for your program and the work world.

This means that these students:

---Cannot read the normal learning materials.

---Cannot perform job-related written tasks.

---Do not have the basic mathematical skills.

---Generally perform below their expected grade level; e.g., they probably have a small vocabulary or poor listening skills or a limited knowledge base, etc.

These academically disadvantaged students may perform like many handicapped students, but they were not born with mental or physical handicaps. They just kept falling farther and farther behind the educational standards as they moved through school.

Many of them "just get by" in their regular classrooms.

Some of them were "passed" because they were too old to be taught with younger students.

Some of them are still below grade level, but they are old enough (approximately 16 years old) to be eligible for your vocational program.

Now, they arrive in your classroom, dragging their poor self-image along with them.

How do academically disadvantaged students typically behave in your vocational classroom?

They are frustrated students who frustrate their teachers!

Do you recognize this profile of your "typical" academically disadvantaged students?

- They prefer to work alone.
- They rely on non-verbal directions and feedback.
- They prefer the spoken word to the written word.
- They have trouble understanding abstract concepts.
- They want to learn "how" before they learn "why."
- They get frustrated over exceptions to rules.
- They have poor self-direction.

  They have trouble organizing their work or their ideas.

  They get discouraged easily.
- They rarely ask you or their fellow students any questions.
- They either "act out" or they try to avoid your attention.
- They are often tardy or absent.

In other words, these students are not the usual teacher's "favorite students," but they certainly are challenges to the vocational teacher.

Can your program be the place where these students will "turn around" and begin to achieve?

If you have an academically disadvantaged student who resembles the typical profile, keep this student in mind and see if the following pages help you to meet their educational challenge.

Which of your instructional techniques help these students?

Combine SUPPORT and RELEVANCE!

1. Present the concepts and information in a clear, organized way.

   a. Your chalkboard and your "hand-outs" should summarize important information.

   b. Give clear and frequent feedback. Use your check lists for each job.

2. Put up your class competency progress chart – it shows your students what they have done and what they are going to do.

3. Use a variety of ways to present the same information (demonstration, lecture, audio-visuals, role-playing, written materials, etc.).

4. Link your theory to hands-on application and job relevance.

5. Use students as "peer teachers," but show them how to help students without "doing it for them."

6. Offer help when your students use their weak skills, *but expect reasonable performance standards for their final "jobs."*

7. Be "boss" as well as teacher. Your vocational instruction has to be "real" to your students.

8. Organize your class into cooperative groups for part of your instructional format.

   a. Be sure the groups will work well together – this may mean you have to assign students to each group.

   b. Give students structured roles in their group – for example:

      — A "resource" person.

      — A "materials" person.

      — A "clean-up" person.

   c. Give clear expectations to your group.

   d. Reward the students who appropriately help each other.

What kinds of learning materials help your academically disadvantaged students to learn?

Materials that are CLEAR, VARIED, and RELEVANT!

CLEAR

Choose instructional materials with short, direct sentences and easy-to-read vocabulary. Of course, keep the correct trade terms, but use everyday language to explain procedures and ideas.

Unclear	**Clear**
With the foil vapor barrier facing you, insert the length of insulation you just cut into the stud to be insulated and position it.	Place the piece of insulation into the stud space and press it down. Be sure the side with the foil vapor barrier faces you.

Space the words so they are easier to read.

Clear	**More Clear**
Place the piece of insulation into the stud space and press it down. Be sure the side with the foil vapor barrier faces you.	Place the piece of insulation into the stud space and press it down. (Figure 10)

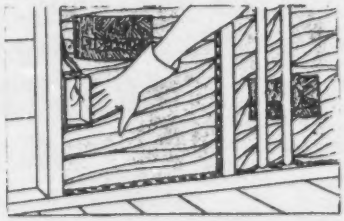


Fig. 10

Note: Be sure the side with the foil vapor barrier faces you.

These easy-to-understand materials become an important bridge to the more difficult materials used in advanced training and on the job.

VARIED

When you use different kinds of materials to teach the same lesson, you give your students several ways to learn the same information or skill. Each kind of materials has a special advantage:

Written materials help your students to review what you have taught them. These materials also help them to help each other when you are not available.

Audio-visual materials are both interesting and informative. They are particularly important aids to your students who are poor readers.

Be sure to choose audio-visual materials that are easy to understand.

Hands-on materials are "for real" to your academically disadvantaged students. They are the "grist" of your vocational education mill and form the core of your learning-materials package.

RELEVANT

During each phase of your program, use the materials that are the most relevant to your vocational field; otherwise, you may be "playing school" and boring your disadvantaged students. This relevance applies to preparatory material, references, and time.

A. When you plan preparatory activities, rely more on hands-on materials in the lab rather than diagrams and work-sheets in the theory room.

   Examples:
   1. Provide brake drums for Auto Mechanics students at their benches to prepare them for "live" work on cars.
   2. Have Food Service students practice table settings and "bussing" through trial runs in the dining room.

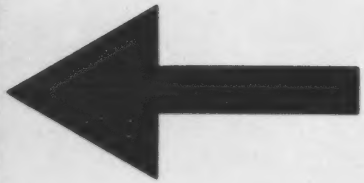
B. Use reference materials from the "trade."

   Examples:
   1. Teach Auto Mechanics students to look up "specs" in the auto manual that is the *Professional Service Edition.*
   2. Teach Food Service students to use commercial recipes that require volume weights.

C. Use hands-on experiences to "turn your students on" to theory. More of your theory becomes relevant to your students *after* their hands-on experiences.

   The "how" of hands-on becomes a concrete link to the "why" of abstract theory.

D. Time clocks and stop watches increase the relevance of the final phase of training when your students learn to "hustle" toward a competitive employment level. Besides, timing your students keeps up their interest when they have to smooth their performance through repeated practice.



Where are the resources for the vocational teacher of academically disadvantaged students?

Consult school personnel and educational magazines and journals.

A *guidance counselor* who has had individual conferences with these students can give you information about their school history.

A *social worker* can tell you more about their family background, including their sources of problems and their sources of support.

A *school psychologist* can interpret their achievement test scores within the perspective of their intelligence test scores and help you to assess their training potential.

A *fellow teacher* who has established a successful instructional relationship with this student may give you some tips to help you and your student break through your mutual frustration.

You may also want to consult articles about disadvantaged students in teacher magazines and journals such as *VocEd*[1], *NAVESNP*[2], or *School Shop*. Here are the references for the articles from the *NAVESNP Journal* which provided much of the background for this brochure. You may want to read some of them.

1. Baca, Patricia. "For Vocational Teachers: Some Helpful Strategies for Working with Disadvantaged Students." *NAVESNP Journal*, Vol. 4 (1), Fall, 1981.

2. Baker, Mary Ellen and Learita Garfield-Scott. "Cognitive Style of Disadvantaged Student." *NAVESNP Journal*, Vol. 4 (1), Fall, 1981.

3. Garner, C. William. "A Group/Individual Education Plan for the Disadvantaged Learner: An Application to Vocational Education." *NAVESNP Journal*, Vol. 4 (1), Fall, 1981.

4. Grubb, Wayne L. "Who Really are the Disadvantaged?" *NAVESNP Journal*, Vol. 4 (1), Fall, 1981

You may also want to read: "Disadvantaged — What Does It Mean?" *Curriculum Information News*, Vol. 1 (1), January, 1983.

[1]*VocEd:* Journal of the American Vocational Association.

[2]National Association of Vocational Education Special Needs Personnel.

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Developed by the Department of Vocational Education University of Pittsburgh, under a grant from the Pennsylvania Department of Education, 1983.

APPENDIX B

The Student with Special Needs

A Guide for Vocational Educators

INTRODUCTION

The objective of this booklet is to help you, the vocational educator, to develop awareness of what it is like to be a disadvantaged or handicapped student and to identify how students with specific handicaps learn. This booklet will enable you to utilize techniques and strategies needed to teach the special student and to make appropriate curriculum modifications which will help this student succeed in the vocational classroom.

Focus on what this student can do instead of stressing what the student cannot do! Remember, the disadvantaged or handicapped student is more like than unlike you. This student has the same wants, desires, strengths, and abilities as all students, but must learn through different modes. Help this student gain self-confidence and a job skill by being successful in at least one class — yours!

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WHAT'S IT LIKE TO BE AN ACADEMICALLY DISADVANTAGED STUDENT?

The academically disadvantaged students who enter your vocational program may not be equipped to meet your program goals because they lack basic learning tools. For example:

They cannot read learning materials near or at their grade level.

They cannot perform job-related written tasks.

They cannot perform job-related mathematical computations.

They do not have good listening skills.

They do not have an average vocabulary or standard knowledge base.

These learning deficits occurred because of inadequate social and/or school preparation. Your academically disadvantaged students kept falling farther and farther behind average academic standards. Now they require special services and teaching strategies to help them "catch up" to your vocational program standards.

HOW DO ACADEMICALLY DISADVANTAGED STUDENTS TYPICALLY BEHAVE IN A VOCATIONAL CLASSROOM?

Because of their academic disadvantage, these students have low self-esteem and a self-limiting learning style. Are these student behaviors familiar?

They are often tardy or absent.

They either "act out" or they try to avoid your attention.

The prefer to work alone, even then they need to work with others.

They rarely ask you or their fellow students any questions.

They have poor self-direction.

They rely heavily on modeling for direction and feedback.

They prefer the spoken word to the written word.

They get frustrated over exceptions to rules.

They want to learn "how" before they learn "why."

They have trouble understanding abstract concepts.

The result is frustrated students and frustrated teachers. Effective instructional strategies and learning materials will help you meet this teaching challenge.

A SUPPORTIVE AND RELEVANT VOCATIONAL PROGRAM CAN MEET THE CHALLENGE OF THE ACADEMICALLY DISADVANTAGED STUDENT

What teaching strategies will help?

Link your theory to hands-on application and job relevance. Theory will become more "concrete" and less "abstract."

Display your class competency progress chart — it tells your students what they have done and what they are going to do.

Present concepts and information in a clear, organized way:

- Break down concepts into small units.
- Use your chalkboard and "hand-outs" to summarize important information.

Give clear and frequent feedback. Use evaluation check-lists for each job.

Use a variety of ways to present the same information: demonstration, audio visuals, lecture, role play, written materials, etc.

Offer help when your students need to use their weak academic skills, but **expect reasonable performance for their final "jobs."**

Be "boss" as well as teacher. Work conditions should be **real.**

Use students as "peer teachers," but show them how to help students without "doing it for them."

Structure your class into cooperative groups or teams for part of your instructional format.

These teaching strategies support your students toward standard terminal performance objectives.

What learning materials will help?

Use clear learning materials with these characteristics:

- Short direct sentences. Introductory clauses or long sentences are confusing.
- Easy-to-read vocabulary and everyday language. It is not necessary to be "academic" in a vocational world.

- Correct trade terms. Final trade standards are important.
- Clear illustrations. Pictures are worth thousands of words.
- Written materials that are clearly typed and reproduced. Hand-written and blurry ditto sheets are confusing to all of us.
- A lot of white space. Too much printed matter on a page "turns off" the academically disadvantaged student.
- Audio-visual materials should be easy to understand and reasonably paced.

These easy-to-understand materials become an important bridge to more difficult materials used in advanced training and on the job. Use varied learning materials. Each kind has a special purpose:

- **Written Materials.** These materials help your students to review what you taught them. They also help students to help each other when you are not available.
- **Audio Visual Materials.** Audio visuals add interest. They are particularly important to students who read poorly.
- **Hands-on Materials.** These materials are "for real" to your disadvantaged students. They are the "grist" of your vocational education mill and form the core of your learning materials package.

When you use varied materials to teach the same lesson, you give your students several ways to learn the same information or skill. Use the most **relevant** materials at the most relevant time:

- When you teach a skill, use hands-on materials as soon as possible. Charts and diagrams have less meaning than actual tools and equipment.
- Use hands-on activities to "turn your students on" to theory. More of your theory becomes relevant **after** hands-on experiences.
- Use the same kind of reference materials your students will use on the job (auto manuals, commercial recipes, etc.).
- Use time clocks and stop watches to increase the relevance of the final phase of training. Your students will learn to "hustle" toward a competitive employment level.

Your disadvantaged students will respond to this relevance because it reminds them that they are preparing for jobs and not just "playing school."

WHAT'S IT LIKE TO BE A LEARNING DISABLED STUDENT?

In the vocational classroom, four of every five students may have some form of learning disability. A "learning disability" is a problem understanding or using the spoken or written word. Boys seem to be more affected by learning disabilities than girls. The learning disabled (LD) student may have difficulty listening, reading, talking, writing, spelling, or with math.

There is a pattern of typical behavior which characterizes the LD student. Look for the following:

- Short attention span; the "trouble-maker"
- Impulsive behavior; truancy
- Poor penmanship; reversed letters/words
- Motor incoordination; messy work
- Hyperactivity (restless, nervous)
- Poor organization of tasks
- Difficulty in handling language; e.g., "propane" becomes "profane"
- Failure to complete projects
- Inability to recognize spatial concepts/measurements/written directions
- Slow reading ability/weak comprehension/lip-reading/word-by-word reading
- Poor oral communications skills
- Negative self-image

The LD student is not mentally handicapped. Indeed, the intelligence quotients of LD students are usually above average. Albert Einstein and Franklin Delano Roosevelt are two examples of learning disabled people who overcame their problem to achieve much in their lifetimes. The LD student has a barrier to learning that you can recognize and circumvent.

WHAT TEACHING STRATEGIES WILL HELP THE LD STUDENT?

Seek help for the LD student and for yourself from the guidance counselor, principal, school psychologist, psychometrist, and special education teacher in your school. Become a part of the IEP (Individualized Educational Plan) team. Request that the LD student be placed in remedial reading, math or speech classes. Additional strategies to help the LD student succeed in your classroom are:

- Utilize a variety of tactile, visual, and auditory learning experiences.
- Assign a peer tutor to help the student review difficult reading material.
- Prepare a **synopsis sheet** or **tape recording** of lectures, new words, or definitions. LD students are poor note takers. OR,
- Give a competent student a sheet of carbon paper to make duplicate notes of lectures.
- Write a series of note cards containing one-word "cues" to help the student sequence the major steps of a process: e.g., Remove, Clean, Prime, Paint, Buff, THEN,
- Ask the student to look, **trace**, and "say out loud" each word. AND/OR,
- Use the first letter of each process for a word to help in the recall process: e.g., Remove, Clean, Prime, Paint, Buff = R-C-P-P-B = Rob Can Put Paint Back.
- Provide a typewriter or calculator as tools to help the LD students when they cannot write.
- Provide additional time to complete work. Keep homework minimal.
- Give oral or tape-recorded tests. LD students have difficulty writing test answers. Students can answer orally to the teacher or on tape.
- **Clip a notecard** to the student's textbook; write the daily assignments on the card.
- Slow the pace of instruction.

Remember, asking for help with a student is not a sign of a weak teacher but of a **caring** one!

WHAT'S IT LIKE TO BE A MENTALLY HANDICAPPED STUDENT?

Mildly mentally handicapped students are coming into your vocational classroom from a society in which they have been **overdosed on failure.** More than any other handicapped group, the mentally handicapped are viewed with misconceptions and prejudice. These are the students the vocational teacher least understands. The following are some myths about the mentally handicapped (MH) student:

Myth - Mentally handicapped students are dummies.

Reality - Mildly mentally handicapped students can and do learn; however, they may have trouble with the level of material in your classroom. These students learn in vocational education the same way all students do, through experience. MH students may achieve math and reading skills up to the sixth grade level or higher.

Myth - Mentally handicapped students are "eternal children."

Reality - MH students do grow up. They develop adult needs, interests, and feelings. Do not "talk down" to MH students or pat their heads!

Myth - Mentally handicappd students cannot control their actions or feelings.

Reality - MH students are just as much in control as other students, but they have experienced more failures and frustrations in school. They seek security, recognition, and a sense of belonging, just as all of us do.

Myth - Mentally handicapped students look "different."

Reality - Individuals with Down syndrome look more like each other than like their families. Accept those students for what they are and for what they can do instead of rejecting them for their appearance or what they cannot do!

Myth - Mentally handicapped students are totally dependent on society.

Reality - The vast majority of mentally handicapped students are employable. They are capable of much, even total independence. They need, however, vocational training to achieve this independence.

WHAT TEACHING STRATEGIES WILL HELP THE MH STUDENT?

Get help for your MH students! Ask their special education teacher to visit your vocational class and offer suggestions for teaching/learning techniques. Request the MH coordinator at your local Intermediate Unit to arrange for a tutor or reader to help students understand your textbook and class assignments.

Changes in curriculum and materials might include:

- Use special textbooks and materials which are adapted for the slow learner: e.g., large print with pictorial illustrations of tasks.
- Modify your own teaching materials: e.g., **color code** a recipe and kitchen measuring equipment.
- Prepare a folder for each student's use in the classroom. Detail the exact task, supplies needed, and cleanup procedure required.
- Use a peer tutor to help the student take notes, stay on task, or review for a test.
- **Tape-record handouts**, reading assignments, and tests to eliminate reading problems. Try performance tests or use pictures of tools/tasks for evaluation.
- Organize classwork by giving each student a calendar outlining each day's tasks.

Changes in teaching methods might include:

- **Repeat, repeat, repeat** to ensure over-learning.
- Use concrete examples and plain language.
- Be consistent in requests and directions.
- Do not begin a new assignment or project until the old one is mastered.
- **Do task analysis.** Break down each process of a task into its component parts.
- Demonstrate. Then let the student practice.
- Slow the pace of instruction.
- Praise, praise, praise after successful completion of each task.

Help the mildly mentally handicapped student feel successful in at least one class — yours!

WHAT'S IT LIKE TO BE A PHYSICALLY HANDICAPPED STUDENT?

While teaching the physically handicapped (PH) student, focus on what the student can do instead of stressing what the student cannot do. **But, do not ignore the handicap.** Meet with the student before class begins. Learn the exact nature of the disability, and point out the barriers to mobility that interfere with learning. Stay in close contact with the coordinator for the physically/orthopedically handicapped at your local Intermediate Unit. Ask the school nurse to explain the physical handicap. The most common physical handicaps of vocational students are:

- Brain injury and neuromuscular impairments: strokes, some kinds of epilepsy, cerebral palsy. Students experience limb paralysis and speech difficulties.
- Spinal cord injury: broken neck or back, spina bifida. Students experience limb paralysis and loss or control or elimination.
- Orthopedic problems: amputation, deformities of the spine or limbs, cleft palate. Students must often deal with an uncomfortable prosthesis or brace or frequent surgery.
- Degenerative conditions: muscular dystrophy, multiple sclerosis. Students experience weakness of hands and/or legs. Condition can stabilize or can get progressively worse.
- Chronic health problems: diabetes, hemophilia, heart disease, arthritis, asthma, severe allergies. Students usually require daily medication and prompt emergency attention.

Environmental rather than intellectual limitations may prevent these students from succeeding in vocational education. In your program, analyze the following elements between the learning environment and the physical limitations of the student.

- **Distance** — the space the students, in wheelchairs or on crutches, must transport themselves and materials to complete a vocational skill.
- **Force** — the amount of pressure the students, in wheelchairs or those with weakened hands, must exert to operate equipment.
- **Reach** — the distance students, in wheelchairs or on crutches, can reach and still maintain their balance.
- **Time** — the PH students may require additional time to learn a vocational task.

WHAT TEACHING STRATEGIES WILL HELP THE PH STUDENT?

Remember that the PH student must adjust to employment in a non-handicapped world. Limit the number of classroom, equipment, and tool modifications. Make only those necessary for learning success in the vocational classroom. Here are some specific suggestions for the PH student:

- **Simulate** the handicap: e.g., operate equipment from a seated position or with one hand or without the use of two fingers, etc. THEN,
- Prepare a task analysis of what the PH student must do to overcome the handicap in your classroom.
- Assign a peer tutor. Ask this student to assist with mobility during and between classes. Give the peer tutor a piece of carbon paper to take duplicate notes. Install guard devices and machine switches that are controlled by the elbow, foot, knee, or shoulder.
- Call the local organization serving the student's **particular** handicap: e.g., United Cerebral Palsy. There agencies have consultants and funding available for local schools.
- Contact the school district's occupational or **physical therapist** to help you modify equipment and facilities.
- Place semi-stationary equipment on variable-height bases.
- Make **extra-large handles** for hand tools for easier use by a student with weak hands.
- Provide a tape recording of lectures and instructions or a synopsis sheet of important points for the student who cannot grip a pencil for note taking. AND,
- Provide alternative testing techniques if needed: e.g., a **tape-recorded test** with time left for recorded answers, an oral test, or a performance test.
- Know emergency procedures for students with epilepsy, diabetes, hemophilia, etc. Be prepared to act quickly in a crisis. Ask another teacher to serve as a back-up helper.
- Give the PH student the **right** to succeed or fail in your classroom. Remember, a person in a wheelchair, has a mind which functions as well as or better than non-handicapped students.

WHAT'S IT LIKE TO BE A HEARING IMPAIRED STUDENT?

The hearing impaired student often appears inattentive and disinterested, fails consistently to respond when questioned, or interrupts a conversation, seemingly unaware that someone else is talking. A hearing impaired (HI) student falls into one of two general categories:

- Hard-of-hearing individuals have some ability to hear and understand the spoken word. Although some words are audible, they are not always clear. Sounds are not necessarily just softer to a hard-of-hearing individual. Words may be garbled and distorted, making it difficult to understand a verbal message.

- Deaf persons cannot hear or understand the spoken word. They may respond to loud noises or vibrations, but are usually unable to understand speech without visual clues.

Your deaf students' speech or vocabulary does not necessarily indicate their intellectual strengths and capabilities. Deafness does not imply brain damage; deafness is caused by malfunctioning in the hearing process which may affect other functions, such as speech.

Build a good rapport with your hearing impaired student. Discuss the best method for communication with each other. One or more communication methods might be used: sign language; finger-spelling; lip-reading; speech; hearing aid; and writing. Lip-reading is a difficult skill to learn and use; approximately 40-60 percent of the sounds in the English language look just like some other sound on the lips.

It is important to know when the student became hearing impaired. If the loss occurred before the age of five, speech and language must be taught rather than learned naturally; this speech is likely to be mechanical and difficult to understand. If the student acquired the loss later in life, the reaction to accepting or rejecting the necessary life changes can also require special attention.

WHAT TEACHING STRATEGIES WILL HELP THE HI STUDENT?

By getting to know your HI student, identifying the degree of hearing loss, and understanding that student's method of communication, you will learn what needs to be done in your classroom. Try the following strategies to insure success for the hearing impaired in the vocational classrom:

- Place the student close to the sound or speaker and away from windows or hallways.
- Speak clearly and precisely. Avoid exaggerated lip movement. Use short sentences. **Stand still when speaking.** Lighting should fall on your face.
- Be sure the student is attending (actively listening). Language is the main handicap for the HI student; e.g., word endings (-s, -ed, -ing) are often omitted. Correct pronounciations kindly.
- Use diagrams. Place key words or directions on the chalkboard or on handouts to augment verbal lectures. Use as many visuals as possible. Give the student an outline of each lecture.
- Do not turn your back to the student when explaining something on the chalkboard or cover your face with hands or a book. Shouting distorts speech and will not make the student hear.
- Seat your class in a semi-circle, if possible. This allows the HI student to see all speakers.
- Pair the student with a **peer tutor** to review lecture notes. Have the "buddy" carefully reinforce all safety regulations of the shop or lab.
- Be aware of safety hazards which require a warning signal. Flashing lights can replace buzzers. The **local telephone company** can install lights on phones, typewriters, timers, and emergency-stop switches.
- Install a red light next to the switch to indicate a machine in operation.
- Most HI students are immediately aware of safety hazards, through visual and/or tactile cues (vibrations).
- Ask the special education department for an interpreter to attend classes with the HI student if you find that this student is missing too much of the classroom communication.

WHAT'S IT LIKE TO BE A VISUALLY IMPAIRED STUDENT?

Altogether, more than five percent of our vocational students may be visually impaired. Several different sight characteristics are defined in the term "visual impairment."

- Visually impaired

  Students are said to be "visually impaired" if they are either functionally blind or partially sighted. The term "blind" is usually used only for those students who have a complete loss of sight.

- Functionally blind

  Students are said to be "functionally blind" if the vision in the better eye, even with the help of corrective lenses, is either absent or consists only of light perception or light projection.

- Legally blind

  "Legally blind" students are those whose vision in the better eye, even with the help of corrective lenses, is not better than 20/200.

- Partially sighted

  Students who are "partially sighted" find that the vision in their better eye, even with the help of corrective lenses, is no better than 20/70.

Being visually impaired (VI) can affect a student's life style, study habits, mobility and, most profoundly, the student's interpersonal relationships. You can do much to remove the barriers between the visually impaired student and the vocational education learning environment.

Loss of sight doesn't mean loss of hearing. Speak directly to the VI student; not to another student, teacher, or parent as if they were interpreters. Use the **same** curriculum and evaluation for all students. Employment and integration into sighted society are the long range goals of vocational education for the visually impaired student.

WHAT TEACHING STRATEGIES WILL HELP THE VI STUDENT?

Approaches to consider in the classroom are:

- Ask the publisher of your textbook if a large-print edition is available.
- Help the student with mobility. When the classroom is empty, show the student where things are in the class and lab.
- Assign a peer tutor. This should be someone willing to assist, answer questions, and help the VI student to become as independent as possible. Give the peer tutor a sheet of carbon paper to take duplicate notes.
- **Tape record lectures** and tests to eliminate writing for the student.
- Mimeograph handouts using pale green paper and black ink. This handout will reflect less light than the purple "ditto" on white paper and be easier to read. If possible, use a "primary" (large print) typewriter.
- Use the overhead projector. The image projected is often larger and clearer than chalkboard writing.
- Equipment may require safety modifications, extra guards, central power-control switches, or other specially-designed adaptations. These adaptations can be provided at low cost by the **American Foundation for the Blind. ALSO,**
- Contact the **Foundation** for specially-designed measuring tools; e.g., audible multimeter, audible electronic level, brailled ruler, talking calculators/cash registers, templates, drill guides, and audible light probes that measure the operating status of machines.
- Ask the **local telephone company** to modify equipment replacing signal lights with buzzers.
- Use a label maker, liquid solder, white glue, or staples to indicate the markings on equipment, control switches, irons, patterns, rulers, etc.

Talk to the student on a person-to-person level. Don't be afraid to use words like "see" and "look." Learn how the student copes with vision problems; some are very skillful in using a limited amount of vision and may have developed individualized methods of learning.

WHAT'S IT LIKE TO BE AN EMOTIONALLY HANDICAPPED STUDENT?

The emotionally handicapped student can be any size, shape, or heritage. This prevalent handicap may be difficult to identify. What distinguishes this student from others is that behaviors are more frequent, consistent, and intense. They interfere with the student's own growth. Patterns of behavior that appear most frequently are:

- Unusual or sloppy dress and personal hygiene
- A short attention span
- Frequent displays of anger and hostility or anxious, withdrawn, and introverted behavior
- Immature and inappropriate behavior
- Failure to relate well to classmates
- Lack of self-confidence
- Obsession with an idea or interest
- Insensitivity to individual differences
- An abnormal concern for health and illnesses
- Underachievement in academic areas
- Display of annoying mannerisms; e.g., humming, singing, joking, tapping, bragging
- A frequent daydreamer
- Display of negative self-concept
- Dependence on the teacher for frequent approval of all activities

The first step in helping EH students is to confer with them and their parents. Disturbing classroom behaviors are the outward sign of inner personal turmoil. Anger, depression, fear, anxiety are all very painful emotions. Feelings of not being loved or respected are the basis of these maladaptive behaviors. Communication, problem solving, and behavior management techniques are useful teaching tools in building a positive self-concept in vocational education for the emotionally handicapped student.

Be aware that emotionally handicapped (EH) students want to learn in your classroom. They may look disinterested, slump in their seats, never volunteer, be frequent absentees, or display aggressive or withdrawn behavior. The reason for such behavior is usually a lack of self-confidence; so, begin by helping this student feel successful in at least one class — **yours!**

WHAT TEACHING STRATEGIES WILL HELP THE EH STUDENT?

All students need a calm, orderly, structured learning environment that provides consistent discipline. The EH student particularly depends on the vocational teacher to help stay "on track." Several teaching strategies you should try are:

- **Make a student-teacher contract.** The student must complete work or correct a behavior in a certain manner in a stated period to time — usually 2-3 days. Give rewards for good classroom behavior or work completed on time.
- Listen actively and "mirror" back what the student says so that you can understand and communicate.
- Be a role-model for the peer group to imitate.
- Consistently point out and clarify the relationship between the student's behavior and consequences. Do this in **private** interaction with the student.
- **Encourage** interpersonal communication.
- Provide opportunities for success. Maximize success, minimize failure. **Catch** the student being good!
- Provide a peer tutor to work with and emphathize with the student.
- TLC. Give the student some extra attention and tender loving care — a handshake, nod, wink, pat on the back.
- Remove distractions when possible: e.g., blinking lights, repetitious noise, a warm or stuffy classroom.
- **Warn** of difficult situations beforehand.
- Ask instead of commanding.
- Emphasize contributions that the student has made.
- Avoid surprises or sudden changes in procedure.
- Finally, contact the school psychologist or Intermediate Unit consultant for the emotionally disturbed attached to your school system. Ask the psychologist or consultant to observe the student in your classroom to collect base-line date (the when, why, how, and frequency) of the inappropriate behavior and to work with the student on **correcting** the behavior.

ADDITIONAL RESOURCES

Remember, you are not alone in your efforts to meet the needs of the handicapped student in the shop, class, or lab. The first place to check is your school's special education unit. Keep close contact with the special education coordinators of your local Intermediate Unit. Join the IEP team! Vocational education for the handicapped must be a **cooperative** effort. Additional help can be requested from:

Western Pennsylvania Regional
Resource Center (REACH)
5347 William Flynn Highway
(Route 8)
Gibsonia, PA 15044
(412) 961-0294

*Provides extensive instructional and evaluation materials in Vocational Education for the handicapped adolescent and adult. **Resource people** can provide classroom assistance and inservice workshops.*

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Central Pennsylvania Regional
Resource Center (SMILE)
5601 North Front Street
Harrisburg, PA 17110
(717) 564-1873

*Provides extensive instructional and evaluation materials in Vocational Education for the handicapped adolescent and adult. **Resource people** can provide classroom assistance and inservice workshops.*

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Eastern Pennsylvania Regional
Resource Center (RISE)
1013 West Ninth Avenue
King of Prussia, PA 19406

*Provides extensive **instructional and evaluation materials** in Vocational Education for the handicapped adolescent and adult. **Resource people** can provide classroom assistance and inservice workshops.*

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Pennsylvania Association for
Retarded Citizens (PARC)
1500 North Second Street
Harrisburg, PA 17102
(717) 234-2621

*Visit your local ARC and see **equipment** and **vocational** curriculum **modifications.** Ask them to visit your program to provide helpful ideas. Can assist in job counseling and placement.*

• • • •

American Foundation for the Blind
15 West 16th Street
New York, NY 10011
(212) 620-2000

*Provides **large print, braille,** or **audible** equipment, patterns, tools and measuring devices on a **free loan** or grant basis. Write for their catalog.*

• • • •

Pennsylvania Association for the Blind
Executive Office
2843 North Front Street
Harrisburg, PA 17110
(717) 234-3261
or call your local chapter

*Provides resource persons to assist in program or **equipment modifications. Funds** new programming.*

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Pennsylvania Materials Center for the Visually Handicapped
4400 Franklin Street
Harrisburg, PA 17111
(717) 564-1873

Provides free loan of curriculum materials and equipment: e.g., large print or tapes of ***books, recipes, patterns,*** and ***magnifiers.***

• • • •

Association for the Education of the Visually Handicapped
919 Walnut Street
Philadelphia, PA 19107
(215) 923-7555

Provides free loan of curriculm materials and equipment: e.g., large print or tapes of ***books, recipes, patterns,*** *and* ***magnifiers.***

• • • •

Association for Children with Learning Disabilities (ACLD)
4156 Library Road
Pittsburgh, PA 15234
(412) 341-1515

Provides resource people to assist classroom teachers. ***Funding, counseling,*** *and* ***evaluation*** *available to assess students' learning disabilities.*

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Bureau of Special Education
333 Market Street
Harrisburg, PA 17108
(717) 783-6913 or call the Pennsylvania State Department Information Service
(717) 787-8732 for a contact person in your local Mental Health Department

Contact the department to find a local ***resource person*** *for assistance.*

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Materials Development Center (MDC)
Stout Vocational Rehabilitation Institute
University of Wisconsin — Stout
Menomonie, WI 54751
(715) 232-1342

Distributes a library of information (curriculum guides, evaluation materials, equipment, film strips, films, etc.) on teaching the handicapped student in Vocational Education. ***Send for their catalog.***

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Foundation for Exceptional Children
1920 Association Drive
Reston, VA 22091
(703) 620-3660

Distributes a library of information (curriculum guides, evaluation materials, equipment, film strips, films, etc.) on teaching the handicapped student in Vocational Education. ***Send for their catalog.***

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Pennsylvania Association of Vocational
Education Special Needs Personnel
(PAVESNP)
333 Market Street
Sixth Floor
Box 911
Harrisburg, PA 17108
(717) 787-8022

Provides resource people to assist classroom teachers. Network system for Vocational Education Special Needs legislation and information.

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Pennsylvania Materials Center for the Hearing Impaired
4400 Franklin Street
Harrisburg, PA 17111
(717) 561-1757

Provides ***free loan materials*** *and* ***equipment*** *designed for Handicapped students. Resource people available for technical assistance.*

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Pennsylvania Department of Health
Speech & Hearing Program
P.O. Box 90
Harrisburg, PA 17120
(717) 783-1414

*Provides **funding** for equipment and program modification. Resource people available for your classroom.*

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Pennsylvania Society for the Advancement
of the Deaf
7500 Germantown Avenue
Philadelphia, PA 19119
(215) 242-6455

*Provides **funding** for equipment and program modification. Resource people available for your classroom.*

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United Cerebral Palsy Association
1718 North Second Street
Harrisburg, PA 17102
(717) 234-2981

*Write or call to locate the local chapter address. **Resource persons** will come to your classroom to offer technical advice. **Funding** available to adapt classrooms and equipment for each handicap.*

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Easter Seal Society
P.O. 497, Box#1
Eulling Mill Road
Middletown, PA 17057
(717) 939-7801

*Write or call the local chapter address. **Resource persons** will come to your classroom to offer technical advice. **Funding** available to adapt classrooms and equipment for each handicap.*

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Muscular Dystrophy Association of America
810 Seventh Avenue
New York NY 10019
(212) 586-0808

*Write or call to locate the local chapter address. **Resource persons** will come to your classroom to offer technical advice. **Funding** available to adapt classrooms and equipment for each handicap.*

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Elwyn Institute & National Rehabilitation Center
4040 Market Street
Philadelphia, PA 19104
(215) 895-5500

*Provides individual evaluation, counseling, training, **job placement** for all handicapped adolescents and adults. Visit to see job training materials equipment and curriculum adaptations for handicapped students. **Resource persons** will come to your classroom.*

• • • •

Goodwill Industries of America
9200 Wisconsin Avenue
Washington, DC 20014
(301) 530-6500

*Write of call to locate the local chapter address. Provides individual evaluation, counseling, training, **job placement** for all handicapped adolescents and adults. Visit to see job training materials, equipment and curriculum adaptation for handicapped students. **Resource persons** will come to your classroom.*

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You may also want to consult articles about disadvantaged students in teacher magazines and journals such as *Voc Ed*[1], NAVESNP[2], or *School Shop*. Here are the references for the articles from the NAVESNP *Journal* which provided much of the background for this brochure. You may want to read some of them.

1. Baca, Patricia. "For Vocational Teachers: Some Helpful Strategies for Working with Disadvantaged Students." NAVESNP *Journal*, Vol. 4 (1), Fall, 1981.

2. Baker, Mary Ellen and Learita Garfield-Scott. "Cognitive Style of Disadvantaged Student." NAVESNP *Journal*, Vol. 4 (1), Fall, 1981.

3. Garner, C. William. "A Group/Individual Education Plan for the Disadvantaged Learner: An Application to Vocational Educaton." NAVESNP *Journal*, Vol. 4 (1), Fall, 1981.

4. Grubb, Wayne L. "Who Really are the Disadvantaged?" NAVESNP *Journal*, Vol. 4 (1), Fall, 1981

You may also want to read: "Disadvantaged — What Does It Mean?" *Curriculum Information News*, Vol. 1 (1), January, 1983.

[1] *Voc. Ed*: Journal of the American Vocational Association.

[2] National Association of Vocational Education Special Needs Personnel.

Developed by the Department of Vocational Education, University of Pittsburgh, under a grant from the Pennsylvania Department of Education, 1983.

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